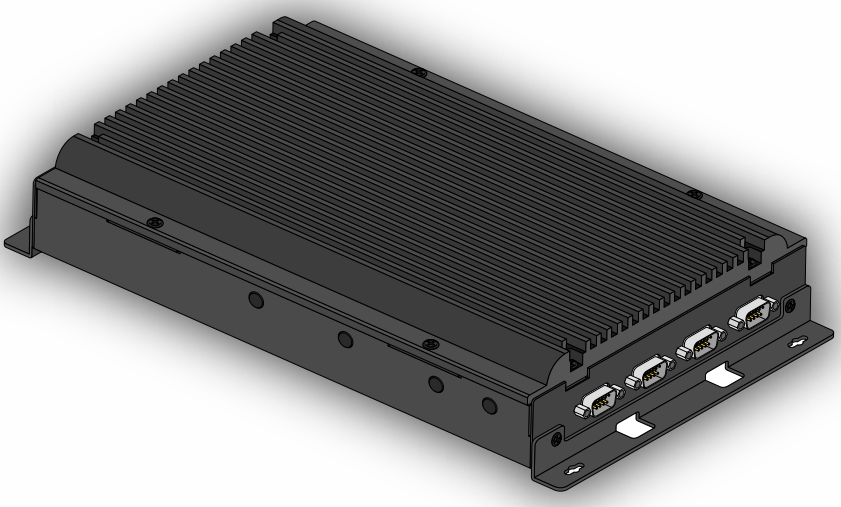
AMOS-3003



VIA Embedded

USER MANUAL

AMOS-3003

Compact and Fanless Embedded System for Automation and Transportation

1.02-05122014-150800

Copyright

Copyright © 2014 VIA Technologies Incorporated. All rights reserved.

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise without the prior written permission of VIA Technologies, Incorporated.

Trademarks

All trademarks are the property of their respective holders.

Disclaimer

No license is granted, implied or otherwise, under any patent or patent rights of VIA Technologies. VIA Technologies makes no warranties, implied or otherwise, in regard to this document and to the products described in this document. The information provided in this document is believed to be accurate and reliable as of the publication date of this document. However, VIA Technologies assumes no responsibility for the use or misuse of the information (including use or connection of extra device/equipment/add-on card) in this document and for any patent infringements that may arise from the use of this document. The information and product specifications within this document are subject to change at any time, without notice and without obligation to notify any person of such change.

VIA Technologies, Inc. reserves the right the make changes to the products described in this manual at any time without prior notice.

Regulatory Compliance

FCC-A Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his personal expense.

Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

Notice 3

The product described in this document is designed for general use, VIA Technologies assumes no responsibility for the conflicts or damages arising from incompatibility of the product. Check compatibility issue with your local sales representatives before placing an order.

CE

FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Battery Recycling and Disposal

- ☐ Only use the appropriate battery specified for this product.
- ☐ Do not re-use, recharge, or reheat an old battery.
- ☐ Do not attempt to force open the battery.
- ☐ Do not discard used batteries with regular trash.
- ☐ Discard used batteries according to local regulations.

Safety Precautions

- ☐ Always read the safety instructions carefully.
- ☐ Keep this User's Manual for future reference.
- ☐ All cautions and warnings on the equipment should be noted.
- ☐ Keep this equipment away from humidity.
- ☐ Lay this equipment on a reliable flat surface before setting it up.
- ☐ Make sure the voltage of the power source and adjust properly
- ☐ 110/220V before connecting the equipment to the power inlet.
- ☐ Place the power cord in such a way that people cannot step on it.
- ☐ Always unplug the power cord before inserting any add-on card or module.
- ☐ If any of the following situations arises, get the equipment checked by authorized service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment has not worked well or you cannot get it work according to User's Manual.
    - The equipment has dropped and damaged.
    - The equipment has obvious sign of breakage.
- ☐ Do not leave this equipment in an environment unconditioned or in a storage temperature above 70°C (158°F). The equipment may be damaged.
- ☐ Never pour any liquid into the opening. Liquid can cause damage or electrical shock.
- ☐ Do not place anything over the power cord.
- ☐ Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating.

Ordering Information

Part Number	Description
AMOS-3003-1D12A1	Fanless Embedded System with 1.2 GHz VIA Nano X2 processor, 1 x HDMI®, 1 x VGA, 2 x USB 3.0, 2 x LAN, 3 x COM, 1 x Digital I/O, 3 x Audio jack, 1 x SATA SSD/HDD bay and DC-In 9V~30V

Box Contents

AMOS-3003-1D12A1

- ☐ 1 x AMOS-3003 system unit (with default mounting brackets)
- ☐ 1 x Power cable, 2-pole Phoenix plug to DC-In (P/N: 99G33-250043)
- ☐ 4 x M4*8mm screws with spring and flat washer for wall mounting (P/N: 99G44-010395)
- ☐ 6 x M2*5mm screws for mini card and mSATA module (P/N: 99G44-010155)
- ☐ 4 x M3*5mm screws for SSD/HDD (P/N: 99G44-010645)
- ☐ 1 x Thermal pad for SSD/HDD (P/N: 99H43-140762)
- ☐ 1 x Thermal pad for mSATA module (P/N: 99H43-141016)
- ☐ 1 x Thermal grease in tube syringe (P/N: 99H26-110124)

Optional Accessories

Peripherals

Model Number	Description
EMIO-1533-00A2	802.11b/g/n Wireless LAN USB Module
EMIO-2550-00A1	3G HSPA/UMTS Wireless Module

Table of Contents

1. Product Overview 1
1.1. Key Features 1
1.1.1. Powered by VIA® Nano X2 Processor 1
1.1.2. Compact and Fanless Chassis Design 2
1.1.3. Networking Support 2
1.1.4. Empowered Multimedia Capabilities 2
1.1.5. Optimize Integration with Multiple I/O Access 2
1.1.6. Dual SIM (Stand-by) Card Slots 2
1.1.7. Storage Expansion 2
1.1.8. Wide Range of Power Sources 3
1.1.9. Wide Range of Operating Temperatures 3
1.1.10. Shock Resistant 3
1.1.11. Multiple Mounting Solutions 3
1.1.12. Embedded OS ready 3
1.2. Product Specifications 4
1.3. Layout Diagram 9
1.4. AMOS-3003 Dimensions 11

2. External I/O Pin Descriptions and Functionality 13
2.1. Rear Panel I/O 13
2.1.1. Power Button 13
2.1.2. DC-In Power Input Connector 13
2.1.3. LED Indicators (Power and SSD/HDD LED) 14
2.1.4. Audio Jacks 14
2.1.5. USB 2.0 Port 15
2.1.6. LAN Port (Gigabit Ethernet) 16
2.1.7. USB 3.0 Ports 17
2.1.8. HDMI® Port 18
2.1.9. VGA Connector 19
2.2. Left Panel I/O 20

2.2.1. COM Connector 20
2.2.2. Digital I/O Connector 21

3. Hardware Installation 23
3.1. How to remove the top cover 23
3.2. How to install the mSATA flash drive 24
3.3. How to insert the SIM Card 26
3.4. How to install the 3G/GPS/WLAN kit 27
3.5. How to install the 2.5" SATA SSD/HDD 29
3.6. How to install the DDR3 SODIMM memory 32
3.7. How to remove the DDR3 SODIMM memory 34
3.8. How to install the AMOS-3003 35

4. BIOS Setup 37
4.1. Entering the BIOS Setup Utility 37
4.2. Control Keys 37
4.3. Getting Help 38
4.4. System Overview 39
4.4.1. BIOS Information 39
4.4.2. Memory Information 39
4.4.3. System Language 39
4.4.4. System Date 40
4.4.5. System Time 40
4.5. Advanced Settings 41
4.5.1. ACPI Settings 42
4.5.2. S5 RTC Wake Settings 43
4.5.3. CPU Configuration 44
4.5.4. SATA Configuration 45
4.5.5. F81801 H/W Monitor 46
4.5.6. F81865 Super IO Configuration 47
4.5.7. F81865 H/W Monitor 50
4.5.8. Clock Generator Configuration 51
4.5.9. OnBoard Configuration 52

4.6. Chipset Settings 53
4.6.1. DRAM Configuration 54
4.6.2. Video Configuration 56
4.6.3. PMU_ACPI Configuration 57
4.6.4. Others Configuration 59
4.7. Boot Settings 61
4.7.1. Boot Configuration 61
4.7.2. Boot Option Priorities 62
4.7.3. Hard Drive BBS Priorities 62
4.8. Save & Exit 63
4.8.1. Save Changes and Exit 63
4.8.2. Discard Changes and Exit 63
4.8.3. Save Changes and Reset 63
4.8.4. Discard Changes and Reset 64
4.8.5. Save Changes 64
4.8.6. Discard Changes 64
4.8.7. Restore Defaults 64

5. Software and Technical Supports 65
5.1. Microsoft and Linux Support 65
5.1.1. Driver Installation 65
5.2. Technical Supports and Assistance 65

Lists of Figures

Figure 1: Rear side layout label 9
Figure 2: Front side layout label 9
Figure 3: Left side layout label 9
Figure 4: Bottom side layout label 10
Figure 5: Rear side view dimensions 11
Figure 6: Left side view dimensions 11
Figure 7: Top side view dimensions 11
Figure 8: Power button diagram 13
Figure 9: Power input connector diagram 13
Figure 10: LED indicator diagrams 14
Figure 11: Audio jack receptacle stack diagram 14
Figure 12: USB 2.0 port diagram 15
Figure 13: LAN port diagram 16
Figure 14: USB 3.0 port diagram 17
Figure 15: HDMI® port diagram 18
Figure 16: VGA connector diagram 19
Figure 17: COM connector diagram 20
Figure 18: Digital I/O connector diagram 21
Figure 19: Removing top cover plate 23
Figure 20: Installing the mSATA thermal pad 24
Figure 21: Removing mSATA thermal pad top layer 24
Figure 22: Inserting the mSATA flash drive module 25
Figure 23: Securing the mSATA flash drive module 25
Figure 24: Installing the SIM card 26
Figure 25: Installing the 3G/GPS/WLAN module 27
Figure 26: Securing the 3G/GPS/WLAN module 27
Figure 27: Removing the 3G/GPS/WLAN antenna hole cover 28
Figure 28: Installing the 3G/GPS/WLAN antenna 28
Figure 29: Removing the SSD/HDD mounting brackets 29
Figure 30: Installing the SSD/HDD to the mounting brackets 29
Figure 31: Installing the SATA cable and SATA SSD/HDD drive 30

Figure 32: Installing the SSD/HDD thermal pad. 30
Figure 33: Removing SSD/HDD thermal pad top layer 31
Figure 34: Removing the memory access cover 32
Figure 35: Inserting the DDR3 SODIMM memory module 32
Figure 36: Securing the DDR3 SODIMM memory module 33
Figure 37: Reinstalling memory access cover 33
Figure 38: Disengaging the SODIMM locking clips 34
Figure 39: Removing the memory module 34
Figure 40: Aligning AMOS-3003 mounting holes 35
Figure 41: Securing the AMOS-3003 on the wall/table 36
Figure 42: Illustration of the Main menu screen 39
Figure 43: Illustration of the Advanced Settings screen 41
Figure 44: Illustration of the ACPI Settings screen 42
Figure 45: Illustration of the S5 RTC Wake Settings screen 43
Figure 46: Illustration of CPU Configuration screen 44
Figure 47: Illustration of SATA Configuration screen 45
Figure 48: Illustration of F81801 H/W Monitor 46
Figure 49: Illustration of F81865 Super IO Configuration screen 47
Figure 50: Illustration of F81865 H/W Monitor 50
Figure 51: Illustration of Clock Generator Configuration screen 51
Figure 52: Illustration of OnBoard Device Configuration screen 52
Figure 53: Illustration of Chipset Settings screen 53
Figure 54: Illustration of DRAM Configuration screen 54
Figure 55: Illustration of Video Configuration screen 56
Figure 56: Illustration of PMU_ACPI Configuration screen 57
Figure 57: Illustration of Other Control screen 58
Figure 58: Illustration of Others Configuration screen 59
Figure 59: Illustration of Boot Settings screen 61
Figure 60: Illustration of Save & Exit screen 63

Lists of Tables

Table 1: Power input connector pinout 13
Table 2: Audio jack receptacle description 14
Table 3: USB 2.0 port pinout 15
Table 4: LAN port pinout 16
Table 5: LAN port LED color definition 16
Table 6: USB 3.0 port pinout 17
Table 7: HDMI® port pinout 18
Table 8: VGA connector pinout 19
Table 9: COM connector pinout 20
Table 10: Digital I/O connector pinout 21

1. Product Overview

The AMOS-3003 is a fanless, compact and rugged embedded system designed specifically for automation and transportation applications such as industrial automation, vehicle system automation and etc.. The AMOS-3003's system accepts a wide range of DC power input voltages (from 9V ~ 30V), and it is powered by 1.2 GHz VIA Nano X2 dual core processor which is superb in multi-tasking performance and high power computing operation with lower power consumption.

The AMOS-3003 has a VGA connector and an HDMI port that enables dual independent displays, and equipped with one 2.5" SATA SSD/HDD drive bay, one DDR3 1333 SODIMM socket (supports up to 8 GB of memory), two RJ-45 ports, two USB 2.0 ports, two USB 3.0 ports, three configurable COM connectors (with 5V/12V selector), and one DIO connector. In addition, it supports two on-board SIM card sockets, three mini PCIe card slots for mSATA storage, GPS and 3G connectivity, and an optional WLAN USB (WiFi) connectivity which can be supported through one on-board USB pin header.

AMOS-3003's system housing is made of a heavy-duty steel body chassis and a robust aluminum alloy top cover that provides high stability which can withstand shock and vibration. Wall and table mounting options are also available.

1.1. Key Features

1.1.1. Powered by VIA® Nano X2 Processor

The AMOS-3003's system is powered by VIA® Nano X2 1.2 GHz processor. The VIA Nano X2 processor is a 64-bit superscalar x86 dual core processor based on a 40 nanometer process technology. Packed into an ultra compact NanoBGA2 package (measuring 21 mm x 21 mm), it delivers an energy-

efficient yet powerful performance, with cool and quiet operation, and superb in multi-tasking performance.

1.1.2. Compact and Fanless Chassis Design

Fanless operation in a compact heavy-duty steel and aluminum chassis that does double duty as a thermal solution. It is designed to ensure maximum reliability and stability that makes it suitable to install in critical environment.

1.1.3. Networking Support

The AMOS-3003 is equipped with two RJ-45 ports that support high speed Gigabit Ethernet and has wireless networking options that give the system a freedom of 3G, GPS and WLAN (WiFi) connectivity through mini card slots and USB pin header.

1.1.4. Empowered Multimedia Capabilities

Built-in 3D/2D performance graphics engine with MPEG-2, VC-1 and H.264 decoding accelerator.

1.1.5. Optimize Integration with Multiple I/O Access

Front, left and rear side I/O access enables the AMOS-3003 system to easily access to peripherals, support various applications, easy integration, quick setup and easy maintenance.

1.1.6. Dual SIM (Stand-by) Card Slots

The AMOS-3003 has two built-in SIM card slots that can support two active SIM card simultaneously from two mobile phone service providers for 3G communication.

1.1.7. Storage Expansion

The mSATA slot and hard disk drive bay enable the AMOS-3003 to have flexible storage options of either mSATA flash drive or 2.5" SATA SSD/HDD.

The 2.5" SATA SSD/HDD bay has special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions.

1.1.8. Wide Range of Power Sources

The AMOS-3003 supports a wide range of input power from DC 9V ~ 30V. The flexibility of power input enables the system to be deployable for various automation environments.

1.1.9. Wide Range of Operating Temperatures

The AMOS-3003 carries a qualified thermal performance design which allows a wide range of operating temperature from -10°C to 60°C, suitable for critical applications.

1.1.10. Shock Resistant

The AMOS-3003 is shock resistant to 50G for maximum reliability.

1.1.11. Multiple Mounting Solutions

The AMOS-3003 supports multiple methods for mounting the chassis securely. It can be mounted to a table, wall, and floor bed or side panel of the vehicle using the default mounting brackets.

1.1.12. Embedded OS ready

It is 100% compatible with several operating systems including Microsoft Windows 7, Microsoft Windows 8, Microsoft Windows Embedded Standard 7 and Linux.

1.2. Product Specifications

Computing System

- **Processor**
  - 1.2 GHz VIA Nano X2
    - 1066 MHz front side bus
    - 2MB L2 cache
- **System Chipset**
  - VIA VX11 advanced all-in-one
- **BIOS**
  - AMI UEFI BIOS
  - 32Mbit SPI flash memory
- **System Power Management**
  - ACPI 3.0 compliant
- **System Monitoring**
  - Wake-on LAN, Keyboard power-on, Timer power-on, System power management, AC power failure recovery, Watchdog timer

System Memory

- **Technology**
  - One SODIMM socket supporting DDR3 1333 SDRAM
- **Maximum Capacity**
  - Supports up to 8GB memory size

Graphics

- **Controller**
  - Integrated VIA Chrome™ 645/640 graphics processor with 2D/3D/video acceleration, support MPEG-2, VC-1, and H.264 video decoder.
- **Display Memory**
  - Optimized Unified Memory Architecture (UMA), supports 256MB to 512MB frame buffer using system memory
  - UMA supporting CRT/HDMI
- **CRT Interface**
  - Supports one VGA connector
  - 10-bit true-color RAMDAC up to 350MHz pixel rate with gamma correction capability
  - Supports CRT resolution up to 2560 x 1536

- **HDMI® Interface**
  - Supports one HDMI® port (Type C connector)
  - Video pixel encoded in RGB 4:4:4/YCbCr 4:4:4/YCbCr 4:2:2 formats
  - Pixel rate up to 340 MHz
  - Supports 1x, 2x, 4x pixel-repetition, complies with CEA-861-D
- **Dual View**
  - Dual independent display of:
    - HDMI® + VGA at different resolution, pixel depths, and refresh rate

Ethernet

- **Controller**
  - Onboard 1st GbE by VIA VT6130 PCIe Gigabit Ethernet controllers
  - 2nd GbE by Realtek RTL8111G PCIe Gigabit Ethernet controllers
- **Interface**
  - Supports dual RJ-45 ports
  - Supports Wake On LAN (WOL)
  - Supports Pre-boot Execution Environment (PXE)

High Definition Audio

- **Controller**
  - VIA VT2021 High Definition Audio Codec
- **Interface**
  - Supports Line-Out, Line-In and Mic-In audio jacks

USB 3.0

- **Controller**
  - Integrated USB controller built-in in VX11 chipset
- **Interface**
  - Supports two USB 3.0 ports

USB 2.0

- **Controller**
  - Integrated USB controller built-in in VIA VX11 chipset
- **Interface**
  - Supports two USB 2.0 ports
  - BIOS selectable to set either standby power (+5VSUS) or +5V for USB 2.0 port
  - Reserved onboard USB pin header, support VIA VNT9271 802.11n WLAN USB module

Serial

- **Controller**
  - Onboard Fintek Super I/O F81865 controller
- **Interface**
  - Three COM connectors
    - BIOS selectable to support adjust functionality of RS-232/422/485 mode of COM1, COM2 and COM3 connector
    - 5V/12V power selection by BIOS setup for COM1 ~ COM3 connector

Digital I/O (GPIO)

- **Interface**
  - Supports one Digital I/O connector
    - 8-bit Digital I/O, +5V power source (4GPI+4GPO)

Mini PCIe slot

- **Controller**
  - PCIe x1 Controller built-in VX11chipset
  - Integrated USB 2.0 Host Controller built-in VX11 chipset
- **Interface**
  - Two onboard Mini PCIe slots that support WLAN/3G/GPS module
  - Supports four external antenna for WLAN, 3G and GPS

SIM Card Slot

- **Interface**
  - Supports two onboard SIM card slots

mSATA

- **Controller**
  - Integrated Serial ATA 2.0 Controller built-in VX11 chipset
- **Interface**
  - Supports one onboard mSATA interface

Storage

- **Interface**
  - One mSATA slot (mini PCIe slot) onboard for mSATA module
  - One SATA port onboard for 2.5" of SATA SSD/HDD
    - One SATA onboard power connector

System Indicator

- **Power Status LED**

- One Green color LED

- **HDD Activity LED**
  - One Red color LED

Watchdog Timer

- **Output**
  - System reset
- **Interval**
  - Programmable 1 ~ 255 sec.

I/O Panel Connectors

- **Rear Side I/O**
  - One HDMI® port (Type-C connector)
  - One VGA connector
  - Two RJ-45 ports (Gigabit Ethernet)
  - Two USB 3.0 ports
  - Two USB 2.0 ports
  - Three 3.5 Ø audio jacks (as Line-out, Line-in and Mic-in)
  - One Power button (On/Off)
  - One Green LED indicator (Power On/Off status)
  - One Red LED indicator (SATA SSD/HDD activities status)
  - One DC-In power input (2-pole Phoenix) connector
- **Left Side I/O**
  - Three COM connectors
    - COM1, COM2 and COM3 (3 x RS-232/422/485)
  - One Digital I/O connector (D-sub 9-pin)
- **Front Side I/O**
  - 4 x Antenna holes for the optional 3G, GPS and WLAN (WiFi)

Power Supply

- **Input Voltage**
  - $9V_{DC}$ ~ $30V_{DC}$
- **Input Power Protection**
  - Supports Over Voltage Protection
  - Supports Over Current Protection
  - Supports Under Voltage Protection
- **Power Adapter**
  - Optional support of external power adapter

Mechanical Characteristics

- **Construction**
  - Heavy-duty steel body chassis
  - Aluminum top cover mixed with copper heat-pipe
- **Wall Mounting**
  - Wall mountable
    - Built-in wall mountable bracket on system chassis
- **Opening bottom access cover**
  - Access cover for DDR3 SODIMM accessing
- **Dimensions (Length x Width x Height)**
  - 275 mm x 185 mm x 46 mm
- **Weight**
  - 3.4 Kg.

Environmental Specification

- **Operating Temperature**
  - -10°C ~ 60°C (with mSATA and 2.5" SATA SSD)
  - 0°C ~ 45°C (with 2.5" SATA HDD)
- **Storage Temperature**
  - -20°C ~ 70°C
- **Relative Humidity**
  - 10% ~ 90% @ 45°C, non-condensing
- **EMC Approved**
  - CE, FCC

Software Compatibility

- **Operating System**
  - Microsoft Windows 8
  - Microsoft Windows 7
  - Microsoft Windows Embedded Standard 7
  - Embedded Linux

Note:

As the operating temperature provided in the specifications is a result of the test performed in VIA's chamber, a number of variables can influence this result. Please note that the working temperature may vary depending on the actual situation and environment. It is highly suggested to execute a solid testing and take all the variables into consideration when building the system. Please ensure that the system runs well under the operating temperature in terms of application.

1.3. Layout Diagram

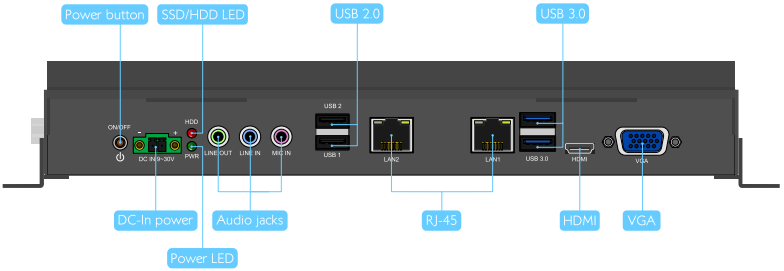


Figure 1: Rear side layout label

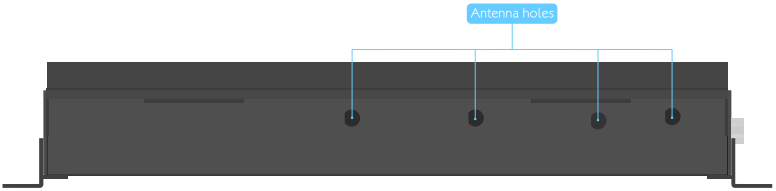


Figure 2: Front side layout label

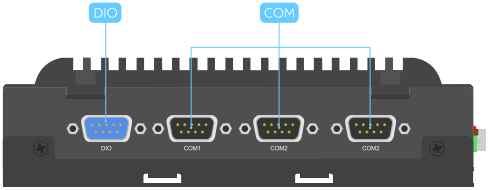


Figure 3: Left side layout label

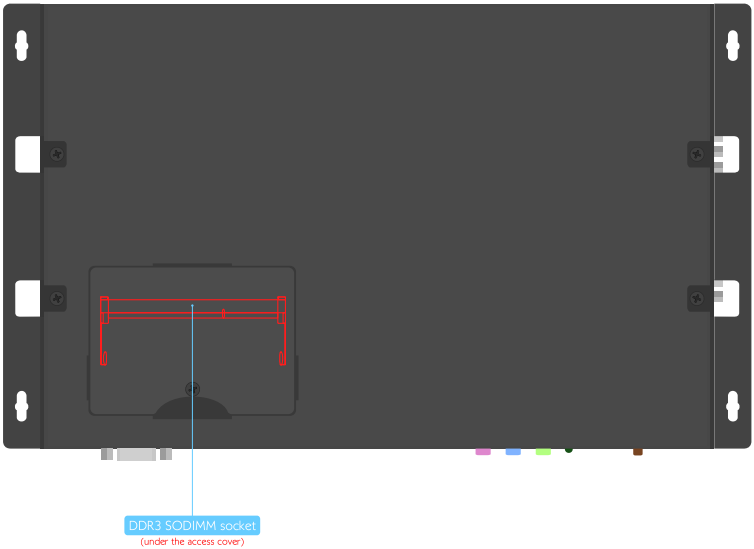


Figure 4: Bottom side layout label

1.4. AMOS-3003 Dimensions

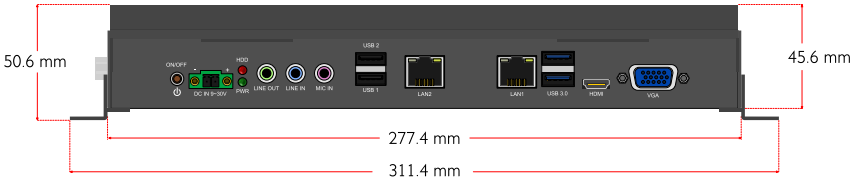


Figure 5: Rear side view dimensions

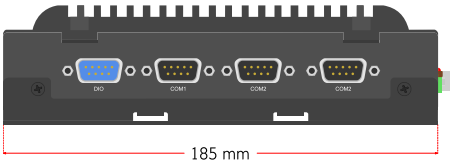


Figure 6: Left side view dimensions

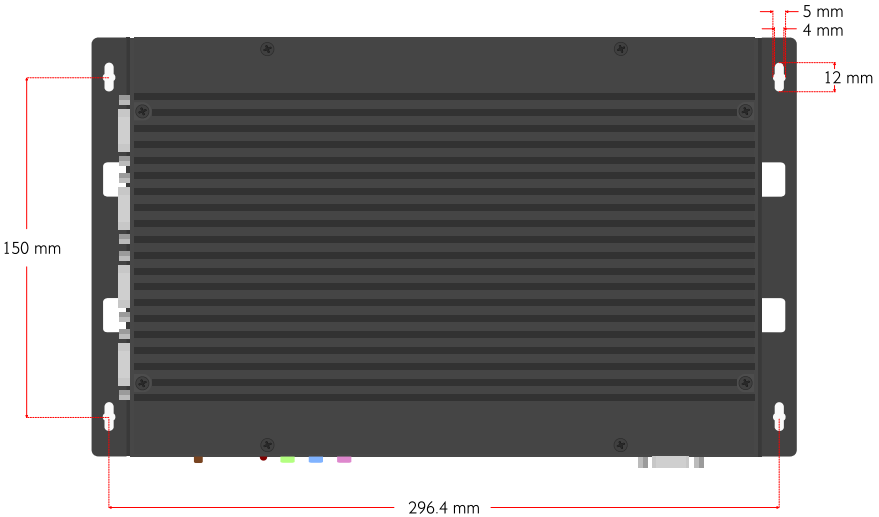


Figure 7: Top side view dimensions

2. External I/O Pin Descriptions and Functionality

The AMOS-3003 has a wide selection of frequently used interfaces as part of the I/O panel.

2.1. Rear Panel I/O

2.1.1. Power Button

The AMOS-3003 comes with a power button that supports Soft power On/Off (Instant Off or 4 second delay), and Suspend.

Figure 8: Power button diagram

2.1.2. DC-In Power Input Connector

The AMOS-3003 comes with a Phoenix connector that carries $9V_{DC}$ – $30V_{DC}$ external power input.

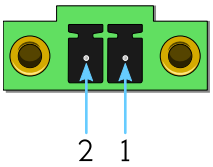


Figure 9: Power input connector diagram

Pin	Signal
1	GND
2	$9V_{DC}$ ~ $30V_{DC}$

Table 1: Power input connector pinout

2.1.3. LED Indicators (Power and SSD/HDD LED)

There are two LEDs on the rear panel of the AMOS-3003 that indicate the status of the system:

- Power LED flashes in green and indicates system's power status.
- SSD/HDD LED flashes in red and indicates hard drive storage activity for 2.5" SATA SSD/HDD.

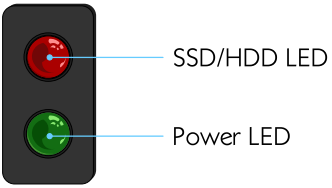


Figure 10: LED indicator diagrams

2.1.4. Audio Jacks

The AMOS-3003 offers High Definition Audio through 3.5 mm TRS jack connectors on the rear panel: Line-Out, Line-In and Mic-In.

The Line-Out jack is for connecting external speakers or headphones. The Line-In jack is for connecting external audio devices such as CD player, tape player, and etc. The Mic-In jack is for connecting microphone.

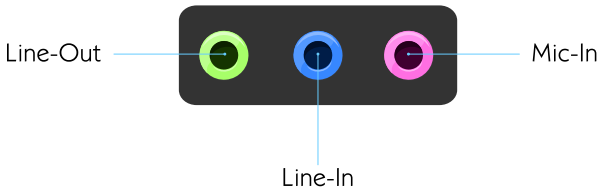


Figure 11: Audio jack receptacle stack diagram

Jack	Description
Line-Out	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded
Line-In	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded
Mic-In	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded

Table 2: Audio jack receptacle description

2.1.5. USB 2.0 Port

The AMOS-3003 has two external USB ports on the rear panel. Each port gives complete Plug and Play and hot swap capability for external devices. The USB interface complies with USB UHCI, Rev. 2.0. The USB 2.0 pinout is shown below.

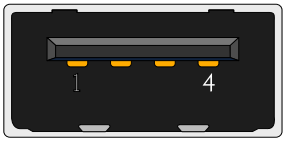


Figure 12: USB 2.0 port diagram

USB 2.0 port 1	
Pin	Signal
1	VCC
2	USB1 data -
3	USB1 data +
4	GND

USB 2.0 port 2	
Pin	Signal
1	VCC
2	USB2 data -
3	USB2 data +
4	GND

Table 3: USB 2.0 port pinout

2.1.6. LAN Port (Gigabit Ethernet)

The AMOS-3003 is equipped with two Gigabit Ethernet LAN ports. Both Gigabit Ethernet LAN ports are using 8 Position 8 Contact (8P8C) receptacle connector or commonly referred to as RJ-45. It is fully compliant with IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX), and 802.3ab (1000BASE-T) standards.

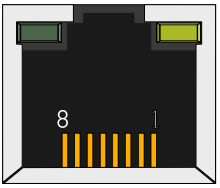


Figure 13: LAN port diagram

LAN1	
Pin	**Signal**
1	LAN1_TD0+
2	LAN1_TD0-
3	LAN1_TD1+
4	LAN1_TD1-
5	LAN1_TD2+
6	LAN1_TD2-
7	LAN1_TD3+
8	LAN1_TD3-

LAN2	
Pin	**Signal**
1	LAN2_TD0+
2	LAN2_TD0-
3	LAN2_TD1+
4	LAN2_TD1-
5	LAN2_TD2+
6	LAN2_TD3-
7	LAN2_TD3+
8	LAN2_TD3-

Table 4: LAN port pinout

Both LAN1 and LAN2 ports are equipped with two LED indicators on the front side to show its Active/Link status and Speed status.

LAN LED Status	Link LED (Left LED on RJ-45 port)	Active LED (Right LED on RJ-45 port)
Active	The LED is always On, different LED colors represent LAN connection speed.	Flash in Orange color
Link	The LED is always On, different LED colors represent LAN connection speed.	LED is off
Speed_10Mbit	The LED is always On in Orange color	Flash in Orange color
Speed_100 Mbit	The LED is always On in Green color	Flash in Orange color
Speed_1000 Mbit	The LED is always On in Red color	Flash in Orange color

Table 5: LAN port LED color definition

2.1.7. USB 3.0 Ports

The AMOS-3003 is equipped with two USB 3.0 ports. The USB 3.0 port has a maximum data transfer rate up to 5 Gbps and offers a backward compatible with previous USB 2.0 specifications. It gives complete Plug and Play and hot swap capability for external devices. The pinout of the typical USB 3.0 port is shown below.

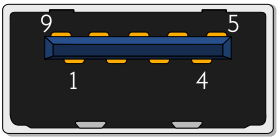


Figure 14: USB 3.0 port diagram

USB 3.0 port 1	
Pin	Signal
1	+5V
2	Data1-
3	Data1+
4	GND
5	RX1-
6	RX1+
7	GND
8	TX1-
9	TX1+

USB 3.0 port 2	
Pin	Signal
1	+5V
2	Data2-
3	Data2+
4	GND
5	RX2-
6	RX2+
7	GND
8	TX2-
9	TX2+

Table 6: USB 3.0 port pinout

2.1.8. HDMI® Port

The AMOS-3003 has one HDMI® port (19-pin HDMI® Type C connector) as defined in the HDMI® specification. The HDMI® port is for connecting to HDMI® displays. The pinout of the HDMI® port is shown below.

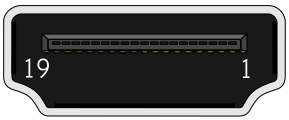


Figure 15: HDMI® port diagram

Pin	Signal	Pin	Signal
1	TMDS Data2 Shield	2	TMDS Data2+
3	TMDS Data2-	4	TMDS Data1 Shield
5	TMDS Data1+	6	TMDS Data1-
7	TMDS Data0 Shield	8	TMDS Data0+
9	TMDS Data0-	10	TMDS Clock Shield
11	TMDS Clock+	12	TMDS Clock-
13	DDC/CEC Ground	14	CEC
15	SCL	16	SDA
17	Reserved	18	+5V Power
19	Hot Plug Detect		

Table 7: HDMI® port pinout

2.1.9. VGA Connector

The AMOS-3003 provides a high resolution VGA interface through DE-15 female connector on the rear panel. It supports resolutions up to 2560 x 1536. The pinout of the VGA connector is shown below.

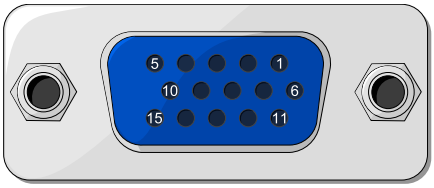


Figure 16: VGA connector diagram

Pin	Signal
1	Red
2	Green
3	Blue
4	NC
5	GND
6	GND
7	GND
8	GND
9	+5V
10	GND
11	NC
12	DDC_SPD
13	HSync
14	VSync
15	DDC_SCL

Table 8: VGA connector pinout

2.2. Left Panel I/O

2.2.1. COM Connector

The AMOS-3003 has three COM (D-sub 9-pin male) connectors labeled as COM1, COM2, and COM3. The COM1 to COM3 connectors can be configured as RS-232, RS-422, or RS-485. However, the default setting of COM connectors is RS-232. To configure the COM connectors, user needs to setup it into the BIOS.

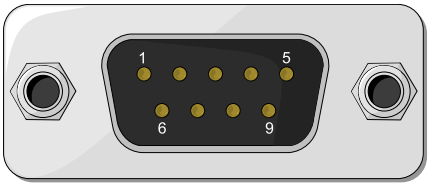


Figure 17: COM connector diagram

Pin	RS-232 Signal	RS-422 Signal	RS-485 Signal
1	DCD	Tx-	DATA-
2	RxD	Tx+	DATA+
3	TxD	Rx+	NC
4	DTR	Rx-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC

Table 9: COM connector pinout

2.2.2. Digital I/O Connector

The AMOS-3003 is equipped with one 8-bit Digital I/O (GPIO) connector (D-sub 9-pin), which offers Digital I/O communication interface. The Digital I/O default setting supports up to four GPO and four GPI signals. The pinout of the Digital I/O connector is shown below.

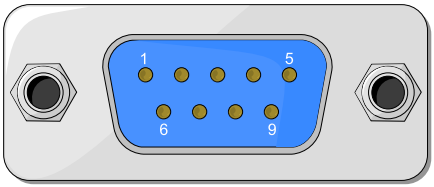


Figure 18: Digital I/O connector diagram

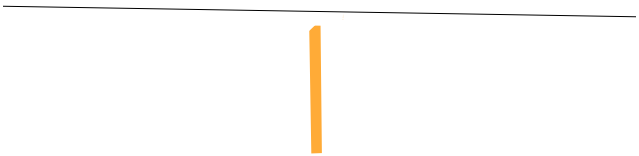
Pin	Signal
1	GPI32
2	GPI9
3	GPIO12
4	GPI7
5	GPIO9
6	GPI5
7	GPIO8
8	GP14
9	+5V

Table 10: Digital I/O connector pinout

7 ? 5

& ' ( ) (

4 ? ! ?



3.5. How to install the 2.5" SATA SSD/HDD

Step 1

Remove the four flat screws and hard drive mounting brackets.

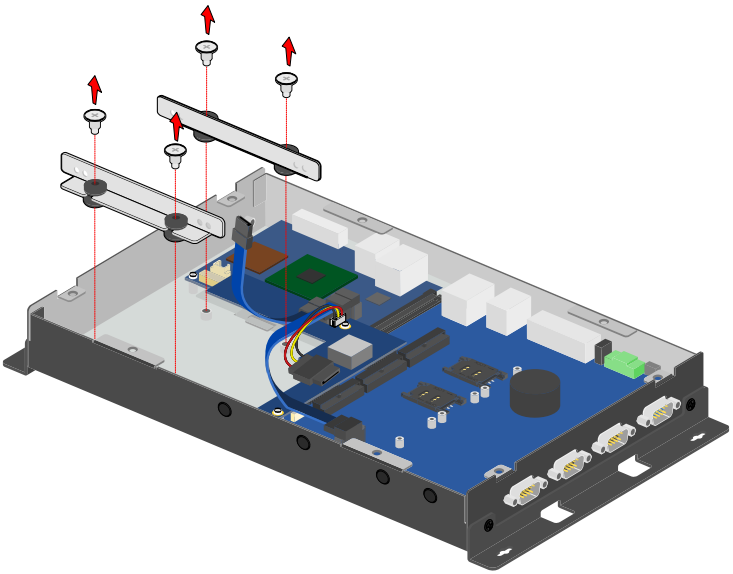


Figure 29: Removing the SSD/HDD mounting brackets

Step 2

Attach the 2.5" SATA SSD/HDD drive to the hard drive mounting brackets.

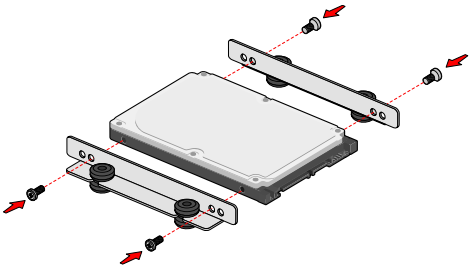


Figure 30: Installing the SSD/HDD to the mounting brackets

Step 3

Connect the SATA data and power cables. Reinstall the mounting brackets with SATA SSD/HDD drive into the chassis and secure it with four screws.

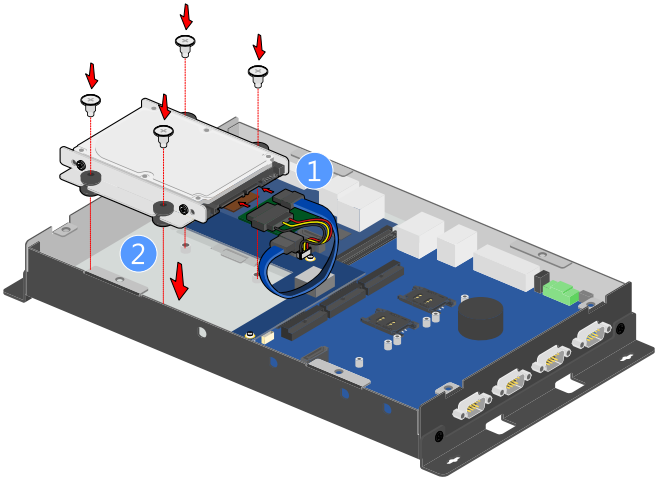


Figure 31: Installing the SATA cable and SATA SSD/HDD drive

Step 4

Remove the bottom protective layer of SSD/HDD thermal pad. Paste it to the SSD/HDD heatsink at the bottom side of the chassis top cover.

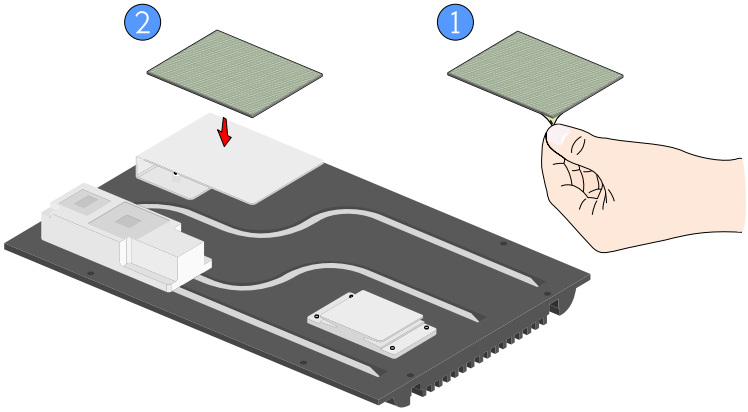


Figure 32: Installing the SSD/HDD thermal pad.

Step 5

Remove the hard drive thermal pad protective (plastic) layer.

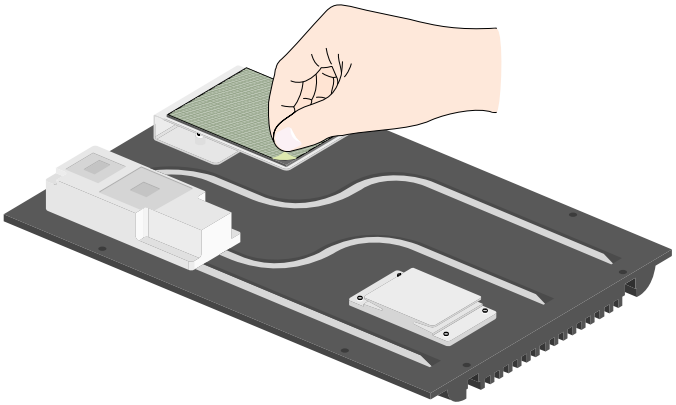


Figure 33: Removing SSD/HDD thermal pad top layer

Step 6

Add about 0.06cc of thermal grease to the topside of the CPU and chipset.

Note:

If the thermal grease runs out after several times of installation, please purchase the corresponding thermal grease (X23-7762) to meet the thermal management requirements. .

Step 7

Reinstall the chassis top cover.

3.6. How to install the DDR3 SODIMM memory

Step 1

Remove the screw of the memory access cover on the bottom side of the chassis then carefully lift up the access cover.

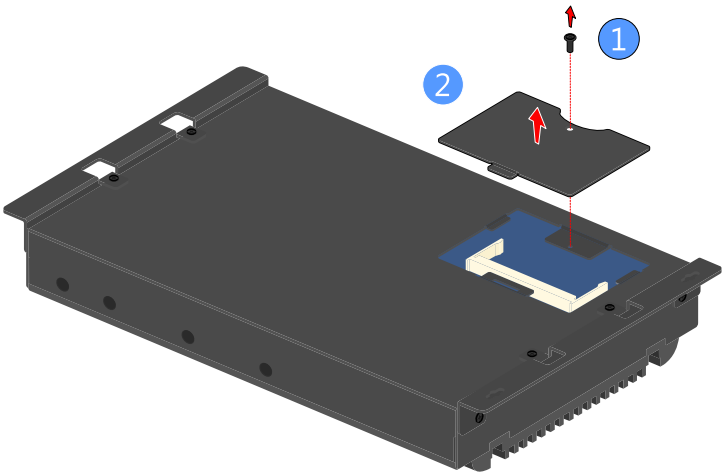


Figure 34: Removing the memory access cover

Step 2

Align the notch on the SODIMM memory module with the notch on the SODIMM socket. Gently insert the SODIMM memory into the SODIMM socket at a 30 degree angle.

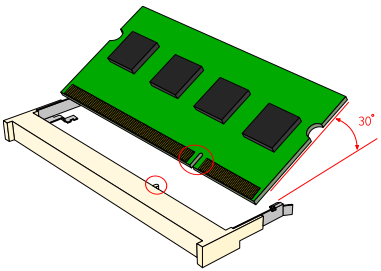


Figure 35: Inserting the DDR3 SODIMM memory module

Step 3

Push down the SODIMM memory until the locking clips lock the memory module into place. There will be a slight tension as the SODIMM memory module is being locked.

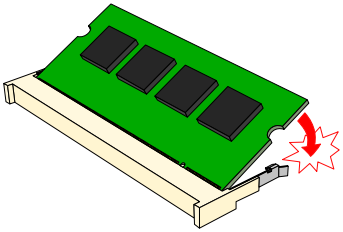


Figure 36: Securing the DDR3 SODIMM memory module

Step 4

On the bottom side of the memory access cover, remove the protective (plastic) layer of the memory thermal pad. Reinstall the memory access cover and secure it with screw.

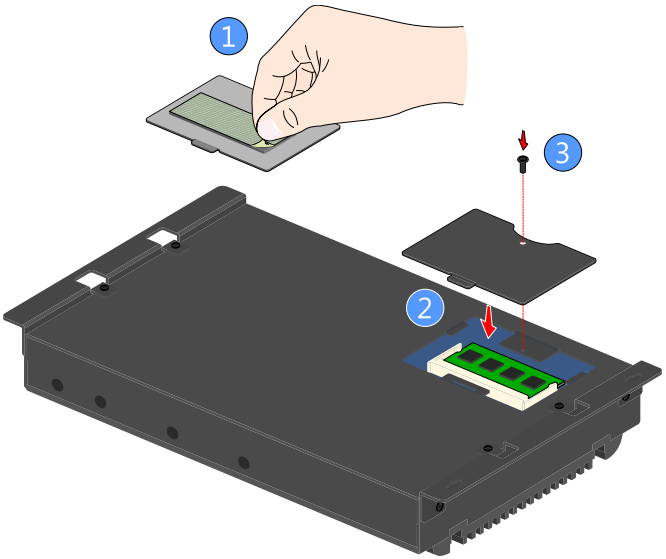


Figure 37: Reinstalling memory access cover

3.7. How to remove the DDR3 SODIMM memory

Step 1

To disengage the locking clips, push the locking clips horizontally outward away from the SODIMM memory module.

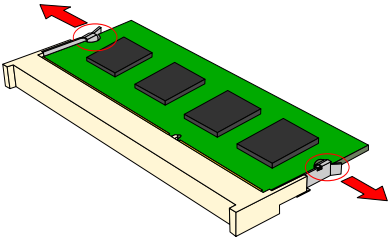


Figure 38: Disengaging the SODIMM locking clips

Step 2

When the locking clips have cleared, the SODIMM memory module will automatically pop up to the 30 degree angle. Remove the memory module.

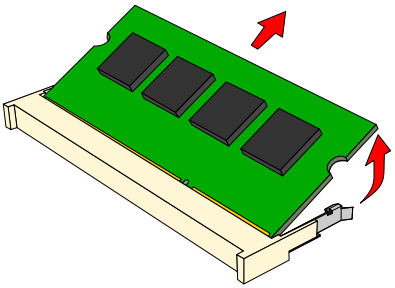


Figure 39: Removing the memory module

3.8. How to install the AMOS-3003

Step 1

Prepare the four screw holes on designated area for mounting the AMOS-3003. Align the brackets mounting holes of AMOS-3003 to the prepared screw holes.

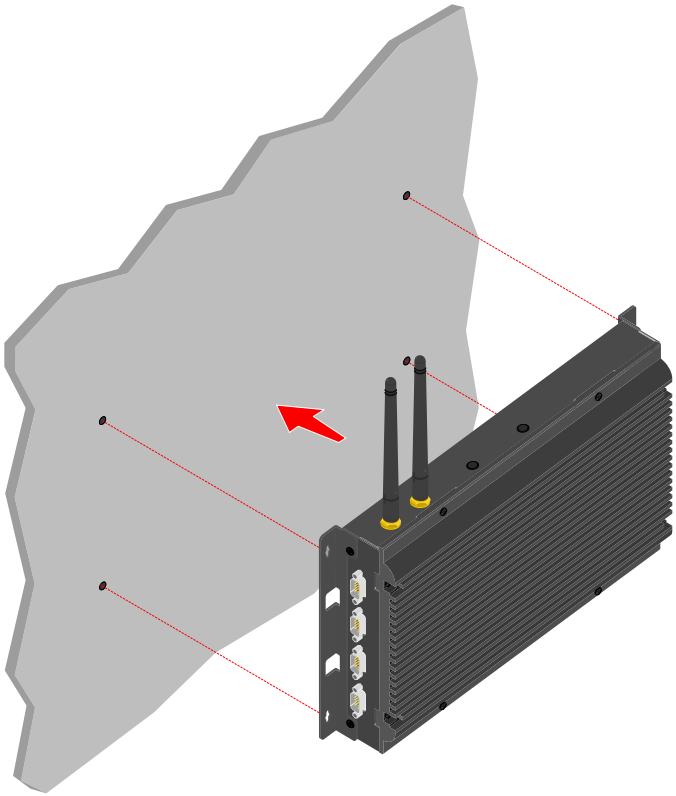


Figure 40: Aligning AMOS-3003 mounting holes

Step 2

Secure the AMOS-3003 to the wall/table with four screws.

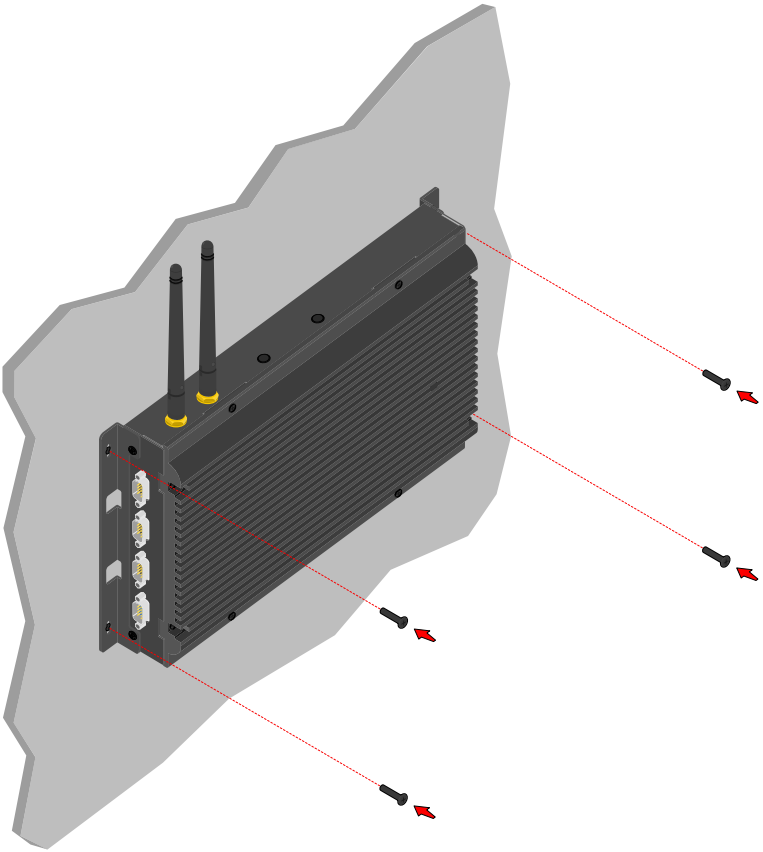


Figure 41: Securing the AMOS-3003 on the wall/table

4. BIOS Setup

This chapter gives a detailed explanation of the BIOS setup functions.

4.1. Entering the BIOS Setup Utility

Power on the computer and press **Delete** during the beginning of the boot sequence to enter the BIOS Setup Utility. If the entry point has passed, restart the system and try again.

4.2. Control Keys

Up Move up one row

Down Move down one row

Left Move to the left in the navigation bar

Right Move to the right in the navigation bar

Enter Access the highlighted item / Select the item

Esc Jumps to the Exit screen or returns to the previous screen

+[1] Increase the numeric value

-[1] Decrease the numeric value

F1 General help[2]

F2 Previous value

F3 Load optimized defaults

F4 Save all the changes and exit

Note:

1. Must be pressed using the 10-key pad.
2. The General help contents are only for the Status Page and Option Page setup menus.

4.3. Getting Help

The BIOS Setup Utility provides a "**General Help**" screen. This screen can be accessed at any time by pressing **F1**. The help screen displays the keys for using and navigating the BIOS Setup Utility. Press **Esc** to exit the help screen.

4.4. System Overview

The System Overview screen is the default screen that is shown when the BIOS Setup Utility is launched. This screen can be accessed by traversing the navigation bar to the "Main" label.

Figure 42: Illustration of the Main menu screen

4.4.1. BIOS Information

The content in this section of the screen shows the information about the vendor, the Core version, UEFI specification version, the project version and date & time of the project build.

4.4.2. Memory Information

This section shows the amount of memory that is installed on the hardware platform.

4.4.3. System Language

This option allows the user to configure the language that the user wants to use.

4.4.4. System Date

This section shows the current system date. Press **Tab** to traverse right and **Shift+Tab** to traverse left through the month, day, and year segments. The **+** and **-** keys on the number pad can be used to change the values. The weekday name is automatically updated when the date is altered. The date format is [Weekday, Month, Day, Year].

4.4.5. System Time

This section shows the current system time. Press **Tab** to traverse right and **Shift+Tab** to traverse left through the hour, minute, and second segments. The **+** and **-** keys on the number pad can be used to change the values. The time format is [Hour : Minute : Second].

4.5. Advanced Settings

The Advanced Settings screen shows a list of categories that can provide access to a sub-screen. Sub-screen links can be identified by the preceding right-facing arrowhead.

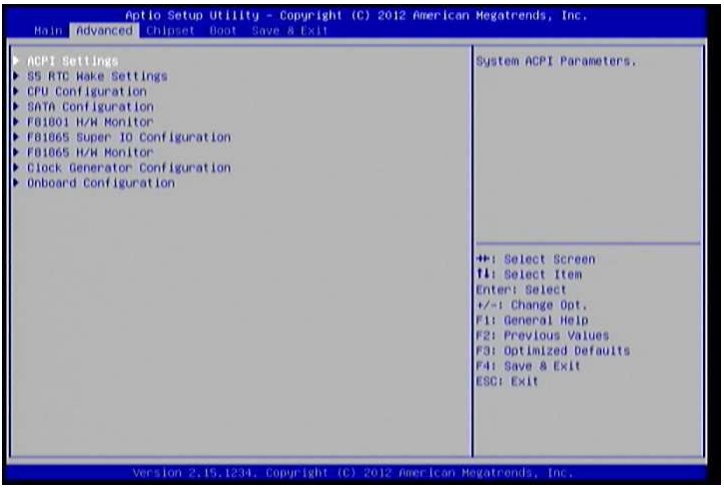


Figure 43: Illustration of the Advanced Settings screen

The Advanced Settings screen contains the following links:

- ACPI Settings
- S5 RTC Wake Settings
- CPU Configuration
- SATA Configuration
- F81801 H/W Monitor
- F81865 Super IO Configuration
- F81865 H/W Monitor
- Clock Generator Configuration
- Onboard Configuration

4.5.1. ACPI Settings

ACPI grants the operating system direct control over system power management. The ACPI Configuration screen can be used to set a number of power management related functions.

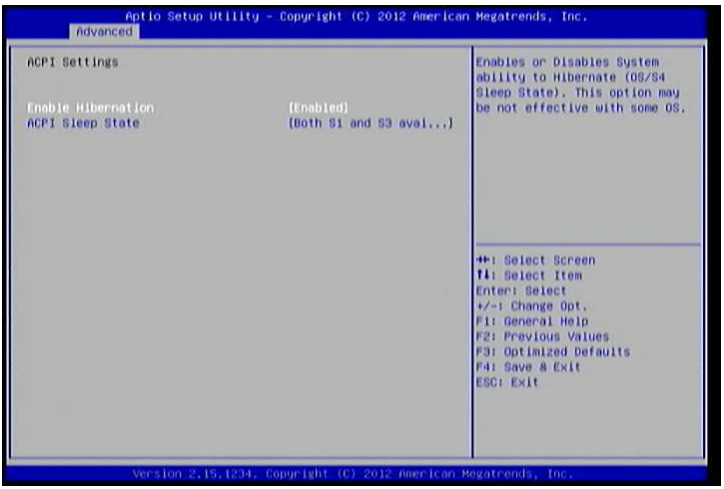

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
ACPI Settings
Enable Hibernation [Enabled]
ACPI Sleep State [Both S1 and S3 aval...]
Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.

Figure 44: Illustration of the ACPI Settings screen

4.5.1.1. Enable Hibernation

Enable/disable system ability to Hibernate.

4.5.1.2. ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the SUSPEND button is selected. Available options are: Suspend Disabled / S1 only (CPU Stop Clock) /S3 only (Suspend to RAM) / Both S1 and S3 available for OS to choose from.

4.5.2. S5 RTC Wake Settings

The S5 RTC Wake Settings screen enables system to wake from S5 using RTC alarm

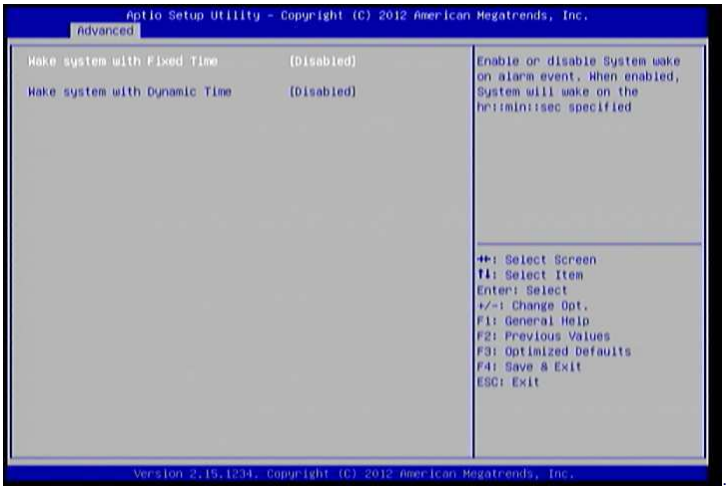

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Wake system with Fixed Time [Disabled]
Wake system with Dynamic Time [Disabled]
Enable or disable System wake on alarm event. When enabled, System will wake on the hr:min::sec specified
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.

Figure 45: Illustration of the S5 RTC Wake Settings screen

4.5.2.1. Wake system with Fixed Time

Enable or disable system wake on alarm event. When enabled, system will wake on the hr:min:sec specified.

4.5.2.2. Wake system with Dynamic Time

Enable or disable system wake on alarm event. When enabled, system will wake on the current time + Increase minutes. Available options are 1 – 5.

4.5.3. CPU Configuration

The CPU Configuration screen shows detailed information about the built-in processor.

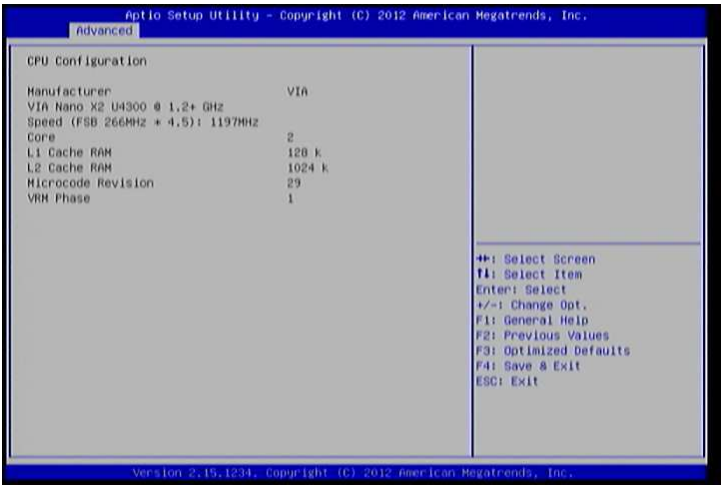


Figure 46: Illustration of CPU Configuration screen

4.5.4. SATA Configuration

The SATA Configuration screen allows the user to view and configure the SATA configuration settings.

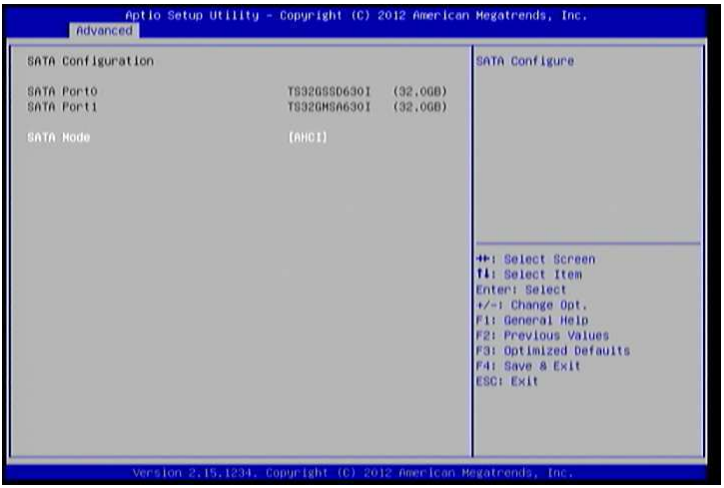


Figure 47: Illustration of SATA Configuration screen

4.5.4.1. SATA Mode

This option allows the user to manually configure SATA controller for a particular mode.

IDE Mode

Set this value to change the SATA to IDE mode.

AHCI Mode

Set this value to change the SATA to AHCI mode.

4.5.5. F81801 H/W Monitor

F81801 screen displays Monitor Hardware status.

Figure 48: Illustration of F81801 H/W Monitor

4.5.6. F81865 Super IO Configuration

The F81865 Super IO Configuration screen allows the user to set system Super IO Chip parameters.

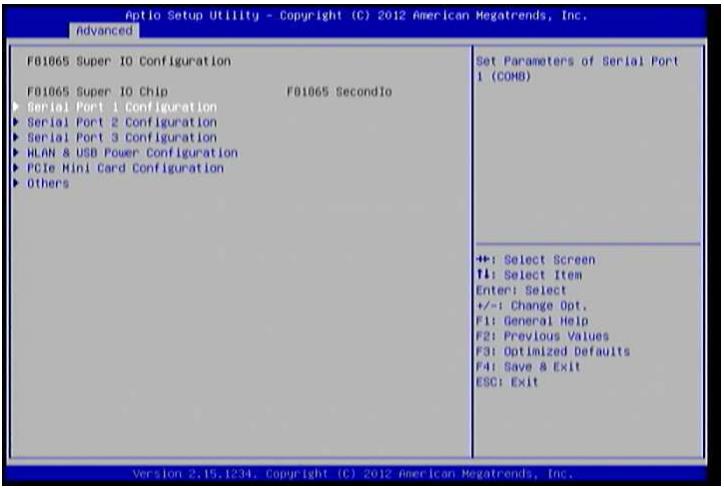

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
F81865 Super IO Configuration
F81865 Super IO Chip F81865 SecondIo
Serial Port 1 Configuration
Serial Port 2 Configuration
Serial Port 3 Configuration
WLAN & USB Power Configuration
PCIe Mini Card Configuration
Others
Set Parameters of Serial Port 1 (COMB)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.

Figure 49: Illustration of F81865 Super IO Configuration screen

4.5.6.1. Serial Port 1 Configuration

Set parameters of Serial Port 1 (COMB).

4.5.6.1.1. Serial Port

Enable or Disable Serial Port (COM).

4.5.6.1.2. Mode

Change the serial port mode. This feature has 3 options: RS232/RS422/RS485.

4.5.6.1.3. I/O Base

Select the I/O base. Available options are:
260/268/270/278/280/288/2B0/2B8/2C0/2CB/3F8/2F8/3E8/2E8.

4.5.6.1.4. IRQ

Select the IRQ. Available options are:3/4/5/6/7/9/10/11/12.

4.5.6.1.5. COM Output Voltage Selection

Select COM output voltage. Available options are: Disabled/+5V RI/+12V RI.

4.5.6.2. Serial Port 2 Configuration

Set parameters of Serial Port 2 (COMC).

4.5.6.2.1. Serial Port

Enable or Disable Serial Port (COM).

4.5.6.2.2. Mode

Change the serial port mode. This feature has 3 options: RS232/RS422/RS485.

4.5.6.2.3. I/O Base

Select the I/O base. Available options are:
260/268/270/278/280/288/2B0/2B8/2C0/2CB/3F8/2F8/3E8/2E8.

4.5.6.2.4. IRQ

Select the IRQ. Available options are: 3/4/5/6/7/9/10/11/12.

4.5.6.2.5. COM Output Voltage Selection

Select COM output voltage. Available options are: Disabled/+5V RI/+12V RI.

4.5.6.3. Serial Port 3 Configuration

Set parameters of Serial Port 3 (COMD).

4.5.6.3.1. Serial Port

Enable or Disable Serial Port (COM).

4.5.6.3.2. Mode

Change the serial port mode. This feature has 3 options: RS232/RS422/RS485.

4.5.6.3.3. I/O Base

Select the I/O base. Available options are:
260/268/270/278/280/288/2B0/2B8/2C0/2CB/3F8/2F8/3E8/2E8.

4.5.6.3.4. IRQ

Select the IRQ. Available options are: 3/4/5/6/7/9/10/11/12.

4.5.6.3.5. COM Output Voltage Selection

Select COM output voltage. Available options are: Disabled/+5V RI/+12V RI.

4.5.6.4. WLAN & USB Power Configuration

4.5.6.4.1. WLAN

Select WLAN power. Available options are: Disabled/ +5VSUS/ +5V.

4.5.6.4.2. USB1

Select USB1 power. Available options are: Disabled/ +5VSUS/ +5V.

4.5.6.4.3. USB2

Select USB2 power. Available options are: Disabled/ +5VSUS/ +5V.

4.5.6.5. PCIe Mini Card Configuration

4.5.6.5.1. PCIe A Mini Card Spec

Select PCIe A Mini Card Spec, available options are1.2 & 1.1

4.5.6.5.2. PCIe B Mini Card Spec

Select PCIe B Mini Card Spec, available options are1.2 & 1.1

4.5.6.6. Others

4.5.6.6.1. DIO

Enabled or Disabled DIO.

4.5.7. F81865 H/W Monitor

F81865 screen shows F81865 H/W Monitor status.

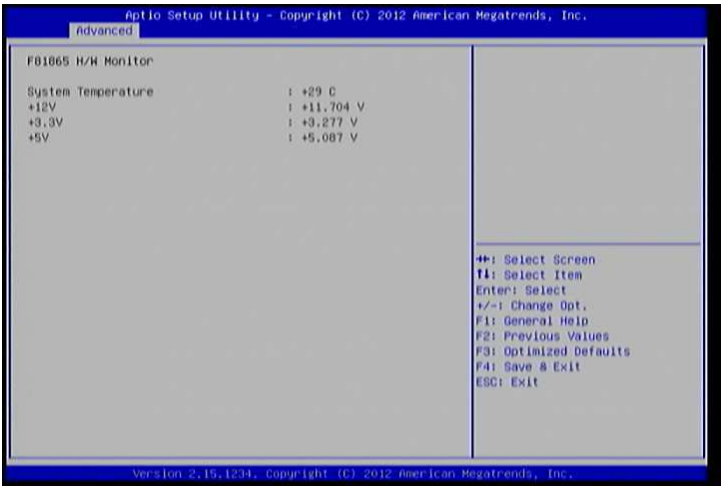


Figure 50: Illustration of F81865 H/W Monitor

4.5.8. Clock Generator Configuration

The Clock Generator Configuration screen enables access to the Spread Spectrum Setting feature.

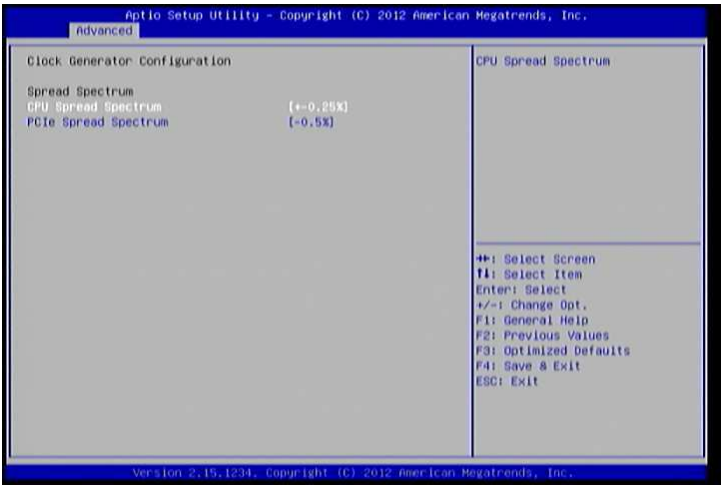


Figure 51: Illustration of Clock Generator Configuration screen

4.5.8.1. CPU Spread Spectrum

The Spread Spectrum Setting feature enables the BIOS to modulate the clock frequencies originating from the mainboard. The settings are in percentages of modulation. Higher percentages result in greater modulation of clock frequencies. This feature has 3 options: Disabled, +-0.25% and -0.5%.

4.5.8.2. PCIe Spread Spectrum

Select PCIe Spread Spectrum. This feature has 2 options: Disabled and -0.5%.

4.5.9. OnBoard Configuration

The OnBoard Device Configuration screen has the following features.

Figure 52: Illustration of OnBoard Device Configuration screen

4.5.9.1. OnBoard LAN Enable

The OnBoard LAN Enable feature determines whether the onboard LAN controller will be used or not.

4.5.9.2. S5 Wakeup On LAN

The S5 Wakeup On LAN feature enables the BIOS to allow remote wake-up from the S5 power off state through the PCI bus.

4.6. Chipset Settings

The Chipset Settings screen shows a list of categories that can provide access to a sub-screen. Sub-screen links can be identified by the preceding right-facing arrowhead.

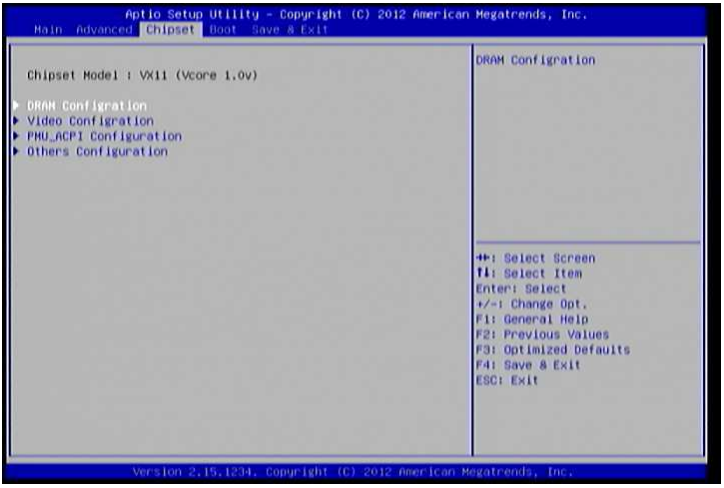


Figure 53: Illustration of Chipset Settings screen

The Chipset Settings screen contains the following links:

- DRAM Configuration
- Video Configuration
- PMU-ACPI Configuration
- Others Configuration

4.6.1. DRAM Configuration

The DRAM Configuration screen has two features for controlling the system DRAM. All other DRAM features are automated and cannot be accessed.

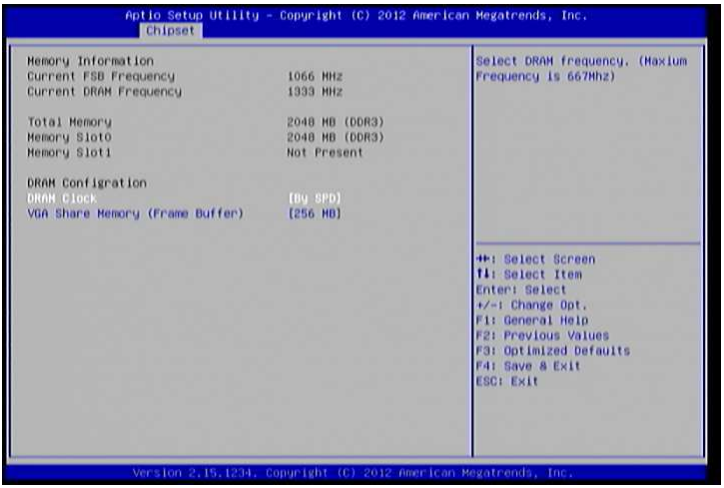

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Chipset
Memory Information
Current FSB Frequency 1066 MHz
Current DRAM Frequency 1333 MHz
Total Memory 2048 MB (DDR3)
Memory Slot0 2048 MB (DDR3)
Memory Slot1 Not Present
DRAM Configration
DRAM Clock [By SPD]
VGA Share Memory (Frame Buffer) [256 MB]
Select DRAM frequency. (Maxium Frequency is 667Mhz)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.

Figure 54: Illustration of DRAM Configuration screen

4.6.1.1. DRAM Clock

The DRAM Clock option enables the user to determine how the BIOS handles the memory clock frequency. The memory clock can either be dynamic or static. This feature has eleven options.

By SPD

By SPD option enables the BIOS to select a compatible clock frequency for the installed memory.

400 MHz

The 400 MHz option forces the BIOS to be fixed at 800 MHz for DDR3 memory modules.

533 MHz

The 533 MHz option forces the BIOS to be fixed at 1066 MHz for DDR3 memory modules.

566 MHz

The 566 MHz option forces the BIOS to be fixed at 1132 MHz for DDR3 memory modules.

600 MHz

The 600 MHz option forces the BIOS to be fixed at 1200 MHz for DDR3 memory modules.

633 MHz

The 633 MHz option forces the BIOS to be fixed at 1266 MHz for DDR3 memory modules.

667 MHz

The 667 MHz option forces the BIOS to be fixed at 1334 MHz for DDR3 memory modules.

4.6.1.2. VGA Share Memory (Frame Buffer)

The VGA Share Memory feature enables the user to choose the amount of the system memory to reserve for use by the integrated graphics controller. The selections of memory amount that can be reserved are 256MB and 512MB.

4.6.2. Video Configuration

The Video Configuration screen has features for controlling the integrated graphics controller in the VX11 chipset.

Figure 55: Illustration of Video Configuration screen

4.6.2.1. Select Display Device Control

Select VX11 Display Device Control. Available options are: Auto and Manual.

4.6.2.2. Select Display Device 1 and 2

The Select Display Device feature enables the user to choose a specific display interface. This feature has three options: CRT and HDMI. If both Select Display Device 1 and Select Display Device 2 are set to the same interface, then any display device connected to the other interface will not function. For example, if both Select Display 1 and 2 are set to CRT, then no data will be sent to the HDMI port.

4.6.3. PMU_ACPI Configuration

The PMU_ACPI Configuration screen can be used to set a number of power management related functions.

Figure 56: Illustration of PMU_ACPI Configuration screen

4.6.3.1. Other Control

Figure 57: Illustration of Other Control screen

4.6.3.1.1. AC Loss Auto-restart

AC Loss Auto-restart defines how the system will respond after AC power has been interrupted while the system is on. There are three options.

Power Off

The Power Off option keeps the system in an off state until the power button is pressed again.

Power On

The Power On option restarts the system when the power has returned.

Last State

The Last State option restores the system to its previous state when the power was interrupted.

4.6.3.1.2. USB S4 WakeUp

The USB S4 WakeUp enables the system to resume through the USB device port from S4 state. There are two options: "Enabled" and "Disabled".

4.6.4. Others Configuration

The Others Configuration screen can be used to set Watchdog Timer Configuration and Keyboard/Mouse Wakeup Configuration.

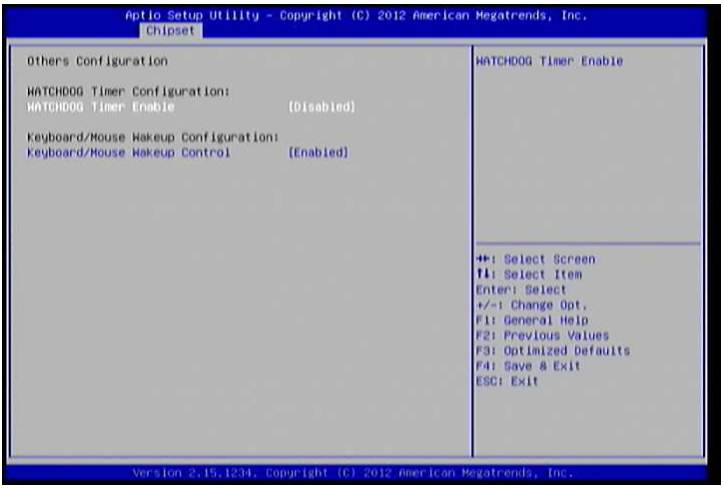


Figure 58: Illustration of Others Configuration screen

4.6.4.1. WATCHDOG Timer Enable

The WATCHDOG Timer Enable feature unlocks three other features that enable the BIOS to monitor the state of the system. This feature has two options: enabled or disabled.

4.6.4.2. WATCHDOG Timer RUN/STOP

The WATCHDOG Timer RUN/STOP feature controls if the WATCHDOG timer is active or dormant. This feature has two options: stop and run.

4.6.4.3. WATCHDOG Timer ACTION

The WATCHDOG Timer ACTION feature determines the action the WATCHDOG timer should take if the timer counts down to zero. This feature has two options: reset and power off.

4.6.4.4. WATCHDOG Timer COUNT

The WATCHDOG Timer COUNT feature determines the length of time the timer should count when the timer is first triggered. This feature has four options: 72, 389, 706, and 1023 seconds.

4.6.4.5. Keyboard/Mouse Wakeup Control

When this feature is enabled, pressing any key of the keyboard or moving the mouse can wake up the system from suspend.

4.7. Boot Settings

The Boot Settings screen has a single link that goes to the **Boot Configuration** and **Boot Option Priorities** screens.

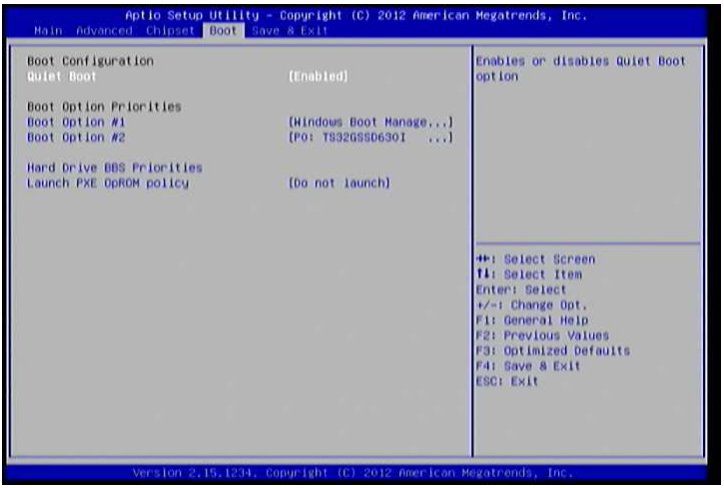

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
Boot Configuration
Quiet Boot [Enabled]
Boot Option Priorities
Boot Option #1 [Windows Boot Manage...]
Boot Option #2 [P0: TS32GSSD630I ...]
Hard Drive BBS Priorities
Launch PXE OpROM policy [Do not launch]
Enables or disables Quiet Boot option
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.

Figure 59: Illustration of Boot Settings screen

4.7.1. Boot Configuration

The Boot Settings Configuration screen has several features that can be run during the system boot sequence.

4.7.1.1. Quiet Boot

The Quiet Boot feature hides all of the Power-on Self Test (POST) messages during the boot sequence. Instead of the POST messages, the user will see an OEM logo. This feature has two options: enabled and disabled.

4.7.2. Boot Option Priorities

The Boot Option Priorities screen lists all bootable devices.

4.7.2.1. Boot Option #1/#2

This feature specifies the boot sequence from the available devices. The available boot devices are detected dynamically and bootable devices will be listed accordingly.

4.7.3. Hard Drive BBS Priorities

4.7.3.1. Launch PXE OpROM policy

Do not launch

Prevent the option for Legacy Network Device.

Legacy only

Allow the option for Legacy Network Device.

4.8. Save & Exit

The Save & Exit Configuration screen has the following features:

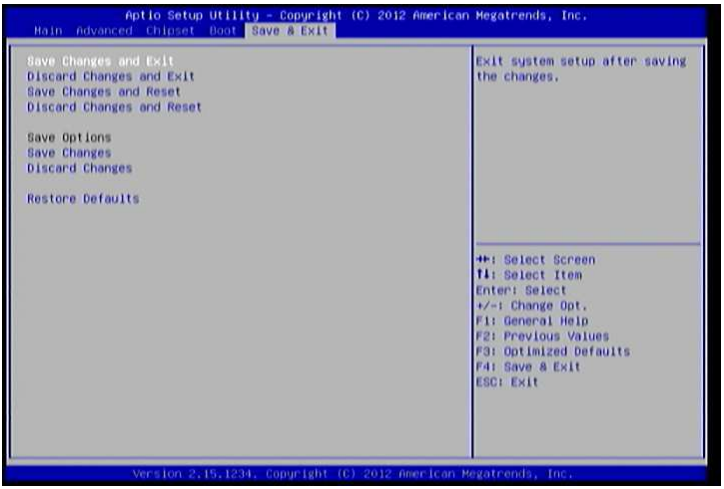


Figure 60: Illustration of Save & Exit screen

4.8.1. Save Changes and Exit

Save all changes to the BIOS and exit the BIOS Setup Utility. The "F10" hotkey can also be used to trigger this command.

4.8.2. Discard Changes and Exit

Exit the BIOS Setup Utility without saving any changes. The "Esc" hotkey can also be used to trigger this command.

4.8.3. Save Changes and Reset

Save all changes to the BIOS and reboot the system. The new system configuration parameters will take effect.

4.8.4. Discard Changes and Reset

This command reverts all changes to the settings that were in place when the BIOS Setup Utility was launched. The "F7" hotkey can also be used to trigger this command.

4.8.5. Save Changes

Save Changes done so far to any of the setup options.

4.8.6. Discard Changes

This command reverts all changes to the settings that were in place when the BIOS Setup Utility was launched.

4.8.7. Restore Defaults

Restore the User Defaults to all the setup options.

5. Software and Technical Supports

5.1. Microsoft and Linux Support

The VIA AMOS-3003 is highly compatible with Microsoft Windows and Linux operating systems.

5.1.1. Driver Installation

Microsoft Driver Support

The latest Windows drivers can be downloaded from the VIA Embedded website at www.viaembedded.com/en/

Linux Driver Support

Linux drivers are provided through various methods including:

- Drivers provided by VIA
- Using a driver built into a distribution package
- Visiting www.viaembedded.com/en/ for the latest updated drivers
- Installing a third party driver (such as the ALSA driver from the Advanced Linux Sound Architecture project for integrated audio)

5.2. Technical Supports and Assistance

- For utilities downloads, latest documentation and new information about the AMOS-3003, go to http://www.viaembedded.com/en/products/systems/

- For technical support and additional assistance, always contact your local sales representative or board distributor, or go to http://www.viaembedded.com/en/service/contact.jsp to fill up the form request.

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. Contact VIA Embedded to submit a request.

Taiwan Headquarters
1F, 531 Zhong-Zheng Road
Xindian, Taipei, 23148
Taiwan

TEL: 886.2.2218.5452
FAX: 886.2.2218.5453
Email: embedded@via.com.tw

USA
940 Mission Court
Fremont, CA 94539
USA

TEL: 1.510.683.3300
FAX: 1.510.687.4654
Email: embedded@viatech.com

Europe
In den Dauen 6
53117 Bonn
Germany

TEL: 49.228.688565.0
FAX: 49.228.688565.19
Email: embedded@via-tech.eu

China
Tsinghua Science Park Bldg. 7
No. 1 Zongguancun East Road
Haiden District, Beijing, 100084
China

TEL: 86.10.59852288
FAX: 86.10.59852299
Email: embedded@viatech.com.cn

Japan
3-15-7 Ebisu MT Bldg. 6F
Higashi, Shibuya-ku
Tokyo 150-0011
Japan

TEL: 81.3.5466.1637
FAX: 81.3.5466.1638
Email: embedded@viatech.co.jp

Korea
2F, Sangjin Bldg., 417
Dogok Dong, Gangnam-Gu
Seoul 135-854
South Korea

TEL: 82.2.571.2986
FAX: 82.2.571.2987
Email: embedded@via-korea.com